UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

WO

REPLY TO: 1350 Committees
(5200)

April 2, 1971

SUBJECT: Registration Status, Zectran

TO: Regional Forester, R-1
Attn: Fred Honing

Attached is a label for each of the Zectran formulations that are registered for use against the eastern and western species of the spruce budworm and the jack-pine budworm.

DAVID E. KETCHAM
Director of Forest Pest Control

Attachments

cc: R-2
R-3
R-4
R-5
R-6
R-10

AELANDGRAF:sms

DOW

ZECTRAN* FS 15

INSECTICIDE

For Use By or Under the Supervision of the U.S. Forest Service, United States Department of Agriculture, to Control Spruce Budworm, Western Spruce Budworm and Jack-Pine Budworm

ACTIVE INGREDIENT:

4-(dimethylamino)-3,5-xylyl methylcarbamate	18.3%
INERT INGREDIENTS:	81.7%

Contains 1.5 pounds 4-(dimethylamino)-3,5-xylyl methylcarbamate per gallon.

U.S.D.A. Registration No. 464-390

DIRECTIONS FOR USE

ZECTRAN FS 15 insecticide is recommended for application to forest lands to control larvae of spruce budworm, western spruce budworm and jack-pine budworm. Dilute 1 gallon of ZECTRAN FS 15 in 9 gallons of deodorized kerosene or similar type oil and apply at the rate of 1 gallon of spray mixture per acre (equivalent to 0.15 pound active ingredient per acre). Apply using suitable aerial spray equipment as specified by qualified U.S. Forest Service personnel.

CONTAINER DISPOSAL

Do Not Re-use Container: Dispose of unused chemical by burying at least 18 inches deep in a location away from water supplied. Punch holes in container and bury with waste. Never use container in any connection with food, feed or drinking water.

This product is toxic to wildlife. Apply this product only as specified on this label.

WARNING

KEEP OUT OF REACH OF CHILDREN
MAY BE HARMFUL OR FATAL IF SWALLOWED
MAY CAUSE IRRITATION
Avoid Eye and Skin Contact
Avoid Breathing Spray Mists

Do not contaminate food, feedstuffs and domestic water supplies. Wash thoroughly after handling. Flush contaminated eyes with plenty of water and get medical attention. If swallowed, induce vomiting by giving an emetic such as two tablespoonfuls of salt in a glass of warm water. *Call a physician.*

NOTE TO PHYSICIAN: Active ingredient is a cholinesterase inhibitor. Treat symptomatically. Atropine is an antidote.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

U.S. Patent No. 3,084,098

THE DOW CHEMICAL COMPANY
AND SUBSIDIARIES
MIDLAND, MICHIGAN 48640, USA ZURICH, SWITZERLAND HONG KONG, BCC
CORAL GABLES, FLORIDA 33134, USA SARNIA, ONTARIO, CANADA

Net Content

Lot

DOW*

ACCEPTED

MAR 17 1971

UNDER THE FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT FOR ECONOMIC POISON REGISTERED UNDER NO. 464-391

ZECTRAN* FS 5
INSECTICIDE

For Use By or Under the Supervision of the U.S. Forest Service, United States Department of Agriculture, to Control Spruce Budworm, Western Spruce Budworm and Jack-Pine Budworm

ACTIVE INGREDIENT:

4-(dimethylamino)-3,5-xylyl methylcarbamate	6.2%
INERT INGREDIENTS:	93.8%

Contains 0.5 pound 4-(dimethylamino)-3,5-xylyl methylcarbamate per gallon.

U.S.D.A. Registration No. 464-391

DIRECTIONS FOR USE

ZECTRAN FS 5 insecticide is recommended for application to forest lands to control larvae of spruce budworm, western spruce budworm and jack-pine budworm. Dilute 3 gallons of ZECTRAN FS 5 in 7 gallons of deodorized kerosene or similar type oil and apply at the rate of 1 gallon of spray mixture per acre (equivalent to 0.15 pound active ingredient per acre). Apply using suitable aerial spray equipment as specified by qualified U.S. Forest Service personnel.

CONTAINER DISPOSAL

Do Not Re-use Container: Dispose of unused chemical by burying at least 18 inches deep in a location away from water supplied. Punch holes in container and bury with waste. Never use container in any connection with food, feed or drinking water.

This product is toxic to wildlife. Apply this product only as specified on this label.

WARNING

KEEP OUT OF REACH OF CHILDREN
MAY BE HARMFUL OR FATAL IF SWALLOWED
MAY CAUSE IRRITATION
Avoid Eye and Skin Contact
Avoid Breathing Spray Mists

Do not contaminate food, feedstuffs and domestic water supplies. Wash thoroughly after handling. Flush contaminated eyes with plenty of water and get medical attention. If swallowed, induce vomiting by giving an emetic such as two tablespoonfuls of salt in a glass of warm water. *Call a physician.*

NOTE TO PHYSICIAN: Active ingredient is a cholinesterase inhibitor. Treat symptomatically. Atropine is an antidote.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

U.S. Patent No. 3,084,098

THE DOW CHEMICAL COMPANY
AND SUBSIDIARIES
MIDLAND, MICHIGAN 48640, USA ZURICH, SWITZERLAND HONG KONG, BCC
CORAL GABLES, FLORIDA 33134, USA SARNIA, ONTARIO, CANADA

Net Content

Lot

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.

UNITED STATES GOVERNMENT

Memorandum

TO : Director, BSF&W, Washington, D. C. (RF) (WS) **DATE:** February 23, 1972

FROM : Acting Regional Director, BSF&W, Atlanta, Georgia

SUBJECT: Control of Ips, Black Turpentine and Pine Bark Beetles

This is to follow up on a recent telephone conversation between Mr. William Martin, Wildlife Services, and Mr. John Oberheu of this office. The Working Group on Pesticides has approved our past proposals to use BHC for spot treatment of infested trees to control the above pests. Lindane, which is 99+% pure gamma isomer of BHC, is closely related but is on Interior's "Prohibited" list.

In a recent conference with the U. S. Forest Service, we learned from Pesticide Specialist Amel Landgraf that his agency uses Lindane instead of BHC for the above insects. Their choice of Lindane was based on the fact that it has a much lower toxicity on repeated exposure. This means that Lindane residues are eliminated more readily and thus should result in less hazard of residues in animal food chains.

We would like to switch from BHC to Lindane, both to reduce environmental hazards and to provide added safety to the persons spraying infested trees. Our present pesticide policy will not permit this change since "Prohibited" chemicals cannot be used on Interior lands under any circumstances.

We request that consideration be given to moving Lindane from the "Prohibited List" to the "Restricted List." We offer the following arguments for this change.

1. The Working Group on Pesticides has approved this particular use of Lindane by the U. S. Forest Service.

2. Lindane is safer to the environment and the user than is BHC.

Data on the relative toxicity of BHC and Lindane is presented on page 53 of the Clinical Handbook on Economic Poisons, published by the U. S. Public Health Service (copy attached).

Ernest C. Martin

Attachments

Safe '72 Depends on You!

ADDRESS ONLY THE DIRECTOR,
BUREAU OF SPORT FISHERIES
AND WILDLIFE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
WASHINGTON, D.C. 20240

APR 10 1972

Memorandum

To: Secretary of the Interior
Through: Assistant Secretary for Fish and Wildlife and Parks

From: Acting Director, Bureau of Sport Fisheries and Wildlife

Subject: Revision of Interior Department Prohibited Pesticide List

The initial decision to place lindane on the Interior Department Prohibited List was based on the fact that its use in indoor vaporizers could have resulted in contamination of food. However, there are other uses of lindane which do not pose these hazards, such as for controlling various forest beetles, particularly in the Southeastern United States. The U.S. Forest Service uses and recommends lindane for beetle control, and has the concurrence of the Federal Working Group on Pest Management.

We would like to switch from BHC to lindane for beetle control work, because of its lower mammalian toxicity and the absence of residues on food crops. This would provide added safety to the applicator and reduce potential environmental hazard.

We request that lindane be changed from the prohibited list to the restricted list. This would permit its use in situations where it poses no hazard.

Approved: APR 21 1972

Acting Secretary of the Interior

May 3, 1972

Memorandum

To: Members, Intradepartmental Pesticide Working Group

From: Chairman, Intradepartmental Pesticide Working Group

Subject: Revision of Interior Department Prohibit Pesticide List

As indicated in the attached memorandum, the Bureau of Sport Fisheries and Wildlife has requested and received a change in the status of "lindane" from "Prohibited" to "Restricted" on the Interior Department pesticide list. All proposed use of lindane must be submitted to the Federal Working Group on Pest Management for review prior to their implementation. Please advise your personnel accordingly.

Walter W. Dykstra

Walter W. Dykstra

cc:
Attachment
Bureau of Indian Affairs
Bureau of Reclamation
Bureau of Land Management
Geological Survey
National Park Service
Office of Territories
WR

WS:PNickerson/ihb 5/3/72

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WO

REPLY TO: 1350 Committees July 24, 1972

SUBJECT: Pesticide-Use Coordinating Committee
Advisory Memorandum No. 48

TO: Regional Foresters, Directors, and Area Directors

Here is some correspondence which we have recently received concerning the U. S. Department of the Interior's removal of lindane from their "Prohibited" to their "Restricted" list.

Regional Foresters in the West and the Area Directors should make sure that their forest insect and disease management units are informed of this change.

PHILIP L. THORNTON, Chairman
Pesticide-Use Coordinating Committee

Enclosure

Not Registered for Idu.

RECOMMENDATIONS FOR USE:

BARK BEETLES: Mix 1 gallon in 15 gallons of diesel fuel oil and apply at the rate of 1½ gallons diluted mixture to approximately 235 sq. ft. of total bark surface area. Apply 1 week before the adult beetles begin to emerge. Accurate, uniform application is most important to the success of the control effort. Application to runoff is wasteful and unnecessary. Hold the nozzle between 1 and 1½ feet from the bark while applying the spray.

CAUTION: NON-EMULSIFIABLE: Do not mix with water unless adding special emulsifier recommended for this purpose.

DO NOT ALLOW THIS PRODUCT TO DRIFT FROM THE AREA BEING TREATED.

EPA Est. 2935-CA-1

F-374

red-top

LINDANE 20 SPRAY

COMPOSITION:

ACTIVE INGREDIENT:	
Lindane (gamma isomer of benzene hexachloride)	**20%**
INERT INGREDIENTS:	
Xylene	**80%**
TOTAL	**100%**

EPA Reg. No. 2935-235

WARNING: KEEP OUT OF REACH OF CHILDREN!

(Also See Side Panel For Additional Warnings.)

Do not use, pour, spill or store near heat or open flame.

Not for use or storage in or around the home.

WILBUR-ELLIS COMPANY

FRESNO · LOS ANGELES · GLENDALE · PORTLAND · SEATTLE

USE DESIGNATED AMOUNT OF PRODUCT IN THE FOLLOWING GALLONS WATER PER ACRE UNLESS OTHERWISE NOTED:

GROUND APPLICATION: Vegetable Crops: 30 to 250 gals.

Where Recommended for AIR APPLICATION: Vegetable Crops: 3 to 10 gals.

RECOMMENDATIONS FOR USE:

BARK BEETLES: For the control of DOUGLAS-FIR BEETLE, WESTERN PINE BEETLE, AND MOUNTAIN PINE BEETLE on Douglas-Fir, White Fir, California Red Fir, Ponderosa Pine, Sugar Pine, Coulter Pine, Monterey Pine and Digger Pine. Mix 1 gallon in 15 gallons of diesel fuel oil or water and apply at the rate of 1 ½ gallons diluted mixture to approximately 235 sq. ft. of total bark surface area. Apply 1 week before adult beetles begin to emerge. Accurate, uniform application is most important to the success of the control effort. Application to runoff is wasteful and unnecessary. Hold the nozzle between 1 and 1 ½ feet from the bark while applying the spray.

BROCCOLI, BRUSSELS SPROUTS, CABBAGE, CAULIFLOWER & KALE: Use 1 qt. per acre to control APHIDS, SOUTHERN CABBAGE WORMS & THRIPS. Do not apply after edible parts start to form.

CELERY, PEPPERS & TOMATOES: Use 1 ½ pts. per acre to control APHIDS, THRIPS, CLIMBING CUTWORMS, LEAFMINERS, FLEA BEETLES & CUCUMBER BEETLES. Do not apply after the Celery is half grown or after it begins to bunch. Do not apply to Peppers after the edible parts start to form. Do not apply to Tomatoes after the fruit starts to form.

EGGPLANTS: Use 2 pts. per acre to control APHIDS, LEAF MINERS & FLEA BEETLES. Do not apply after the edible parts start to form.

F-771-377

red-top

LINDANE 1.7 SPRAY

COMPOSITION:

ACTIVE INGREDIENT:	
Lindane (gamma isomer of benzene hexachloride)	**20%**
Petroleum Hydrocarbons	**75%**
INERT INGREDIENTS:	**5%**
USDA Reg. No. 2935-377	**100%**

Contains 1.7 lbs. Lindane per gal.

WARNING: KEEP OUT OF REACH OF CHILDREN!

WARNING: May Be Fatal If Swallowed. May Be Absorbed Through Skin. Avoid breathing spray mist. Avoid contact with skin and eyes. In case of contact, wash immediately with soap and water; for eyes flush with water and get medical attention. Avoid contamination of feed and foodstuffs. Do not use on household pets or humans. Keep out of reach of children. Do not use on feed or forage to be fed to dairy animals or to animals being finished for slaughter.

This product is toxic to fish and wildlife. Keep out of any body of water. Apply this product only as specified on this label. Birds and other wildlife in treated areas may be killed.

This product is highly toxic to bees exposed to direct treatment or residues on crops. Protective information may be obtained from your Cooperative Agricultural Extension Service.

DO NOT APPLY WHEN WEATHER CONDITIONS FAVOR DRIFT FROM AREA TREATED. DO NOT CONTAMINATE WATER BY CLEANING OF EQUIPMENT, OR DISPOSAL OF WASTES

WILBUR-ELLIS COMPANY

FRESNO · LOS ANGELES · GLENDALE · PORTLAND · SEATTLE

Registered in Idaho

Linda

APR 2 1974

TSI COMPANY
P.O. BOX 151
HIGHWAY 206
FLANDERS, NEW JERSEY 07836
(201) 584-3417

March, 1974

Dear Sir:

Enclosed are new labels for SILVISAR 550 and SILVISAR 510. These labels were recently approved for general forestry use by Environmental Protection Agency and should be kept on file if you are using or plan to use these products in the future. Also enclosed are new prices for SILVISAR and the HYPO-HATCHET Injector.

Should you have any questions on the above products, or if we can assist you in any way please call upon us. TSI Company now carries a complete line of forestry tools, equipment and chemicals, and we look forward to the opportunity of serving you.

Sincerely,

Robert W. Smith
General Manager

RWS/ks
Enclosures

Action	S&PF	Initial
	Deputy R. F.	
	Director-[illegible]	
	Coord. Fire Mgt.	
	Coord. [illegible]	
	Director [illegible]	[illegible]
	Regional [illegible]	
	Zone Leader, Ogden	
	[illegible] 1	
	[illegible] 2	
	Lab. Tech.	
	Zone Leader, Boise	
	[illegible] 1	
	[illegible] 2	
	Clerk	
	Director, [illegible]	
	Asst. Director	
	[illegible] Planners	

S&PF-FILE

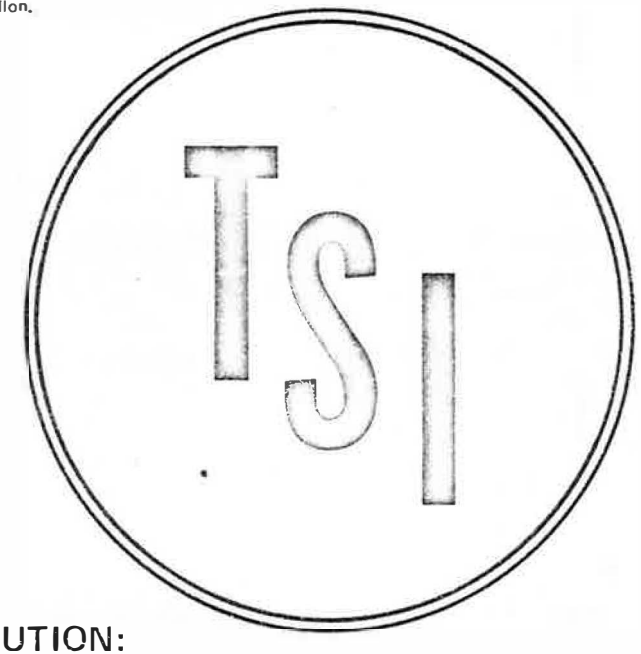
Silvisar® 550

Tree Killer **For General Forestry Use**

ACTIVE INGREDIENTS:
Monosodium Acid Methanearsonate 48.47%

INERT INGREDIENTS: . . 51.53%
Total Arsenic (as elemental) all in water soluble form 22.42%

Product contains 6.0 lbs. MSMA per gallon.



CAUTION:
Keep out of the reach of children

Read entire label before using this product

SPECIMEN LABEL

CAUTION: Keep Out of the Reach of Children

CAUTION: Harmful if swallowed. Avoid contact with skin. Wash thoroughly after using. Store in a safe place away from feed and food products.
ANTIDOTE: If taken internally, induce vomiting and call physician at once.
READ ENTIRE LABEL BEFORE USING THIS PRODUCT.
WARRANTY — CONDITION OF SALE: DIRECTIONS FOR USE of this product are based on field use and tests believed reliable and should be followed carefully. It is however impossible to eliminate all risks associated with use of this product. Because such factors as weather conditions, foreign material and manner of use for application are all beyond the control of TSI Company or the Seller of this product, such things as crop injury, ineffectiveness or other unintended consequences may result. ALL SUCH RISKS ARE ASSUMED BY THE BUYER.
TSI warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the directions for use as modified by the above. TSI makes no other warranties, express or implied, including FITNESS or MERCHANTABILITY. In no case shall TSI or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product. The foregoing is a condition of sale by The TSI Company and is accepted as such by the Buyer.
GENERAL INFORMATION: SILVISAR 550 Tree Killer is designed for crown kill of undesirable trees through spaced-cut injection methods. It is useful for the control of the following conifers: lodgepole pine, ponderosa pine, Douglas-fir, jack pine, and red pine. It is also useful for the control of big leaf maple. It shows negligible translocation through root grafts and has no residual phytotoxic action in the soil.
CARE OF EQUIPMENT: SILVISAR 550 Tree Killer is entirely soluble in water. Rinse all injection equipment thoroughly after use, and dispose of liquid wastes in a pit in non-crop lands located away from water supplies.
CONTAINER DISPOSAL: Do not reuse empty container. Wash thoroughly with water and detergent, crush if possible, and discard in a safe place.
DIRECTIONS FOR USE:
SPACED-CUT INJECTION WITH TSI "HYPO-HATCHET" INJECTOR: The TSI HYPO-HATCHET injector cuts and injects in one operation. When a tree is struck with the injector, a pre-set amount of SILVISAR 550 Tree Killer is injected automatically into the sapstream of the tree immediately after impact. The injector works by inertia and is designed to inject at least one milliliter of chemical per stroke. The cuts should be evenly spaced around the trunk to give proper distribution into the sapwood. For detailed instructions on how to use the TSI HYPO-HATCHET Injector, refer to the Operation Manual.
CONIFERS (See General Information) AND BIG LEAF MAPLE (Growing Season) — For trees below 8 inches diameter at breast height (DBH), make one cut per 2 inches of DBH (4½" spacing between cut edges) at waist height or below. For trees 8 inches DBH and larger, make one cut per 1 inch DBH (1½" spacing between cut edges).
CONIFERS (Dormant Season) — Make one cut per 1 inch of DBH (1½" spacing between cut edges) at waist height or below.
BIG LEAF MAPLE (Dormant Season) — Make a complete frill at waist height or below (cuts need not be overlapping).
SPACED-CUT APPLICATION: Although spaced-cut application is facilitated by use of the TSI HYPO-HATCHET Injector, a hatchet or similar cutting tool can be used. The number of cuts per tree depends upon the size of the cuts and the volume to be injected, but in any case, should be sufficient to hold the silvicide without running down the trunk. Make certain that each cut penetrates into the sapwood. Apply SILVISAR 550 Tree Killer with a pump-type oil can, plastic squeeze bottle, or other suitable dispenser.
CONIFERS (See General Information) AND BIG LEAF MAPLE (Growing Season) — For trees below 8 inches diameter breast height (DBH), apply 1 to 2 milliliters of SILVISAR 550 Tree Killer per cut per 2 inches of DBH (6" spacing between cut centerlines) at waist height or below. For trees 8 inches DBH and larger, use 1 to 2 milliliters per cut per 1 inch DBH (3" spacing between centerlines).
CONIFERS (Dormant Season) — Apply 1 to 2 milliliters of SILVISAR 550 Tree Killer per cut per 1 inch of DBH (3" spacing between cut centerlines).
BIG LEAF MAPLE (Dormant Season) — Apply 1 to 2 milliliters of SILVISAR 550 Tree Killer per cut in a complete frill at waist height or below. (Cuts need not be overlapping.)
SILVISAR 550 Tree Killer is manufactured by TSI Company, Flanders, N.J. 07836.
SILVISAR, HYPO-HATCHET are registered trademarks.

Net Contents Gallons Patent Pending EPA Reg. No. 28301-1

Form No. 63073

TSI

TSI COMPANY
FLANDERS, NEW JERSEY

Silvisar® 550

Data Sheet

Herbicide

PHYSICAL PROPERTIES

Appearance	Bright Red Solution
Density, g./ml.	1.483
Net Weight per Gallon	12.37 lbs.
pH	5.5 – 5.9
Arsenic Content (as elemental)	22.42%

HANDLING

SILVISAR 550 Tree Killer will usually remain fluid at temperatures down to approximately 10°F. Prolonged storage at temperatures below 10°F. will cause crystallization, however, the crystals should redissolve on warming to room temperature.

The Acute Oral LD_{50} of SILVISAR 550 Tree Killer is approximately 1800 mgs./kg. of body weight when tested on young male and female albino rats. While SILVISAR 550 Tree Killer is considered to be only a moderate toxicant and a moderate skin and eye irritant, it is recommended that contact with the material be avoided.

USES

SILVISAR 550 Tree Killer is designed for the crown-kill of undesirable trees through spaced-cut injection methods. It is useful for the control of lodgepole pine, ponderosa pine, Douglas-fir, jack pine, red pine and big leaf maple. Current uses include: Pre-commercial thinning, cull elimination, conifer release, control of species composition, site preparation, and rangeland clearing.

CONTAINER SPECIFICATIONS

1 Quart Plastic Bottle
12 Bottles per Case
Case Dimensions – 12¾" x 9¾" x 10"
Gross Weight (case and 12 bottles) – 40 pounds
Net Weight (1 quart) – 3 pounds, 1 ounce

5 Gallon Plastic Jug
Dimensions – Outside Diameter 11½", Height 14"
Gross Weight – 65 pounds
Net Weight – 62 pounds

30 Gallon Lined Drum
Dimensions – Outside Diameter 19", Height 28¾"
Gross Weight – 396 pounds
Net Weight – 371 pounds

Form No. 63073 Litho in U.S.A.

Silvisar® 510

Tree Killer

For General Forestry Use

ACTIVE INGREDIENTS:
Dimethylarsinic Acid
(Cacodylic Acid) 50.0%

INERT INGREDIENTS: . . . 50.0%
Total Arsenic (as elemental)
all in water soluble
form 27.1%

Product contains 6.0 lbs.
dimethylarsinic acid equivalent
per gallon.

TSI

CAUTION:
Keep out of the reach of children

Read entire label
before using
this product

SPECIMEN LABEL

CAUTION: Keep Out of the Reach of Children

CAUTION: Harmful if swallowed. Avoid contact with skin. Wash thoroughly after using. Store in a safe place away from feed and food products.
ANTIDOTE: If taken internally, induce vomiting and call physician at once.
READ ENTIRE LABEL BEFORE USING THIS PRODUCT.
WARRANTY – CONDITION OF SALE: DIRECTIONS FOR USE of this product are based on field use and tests believed reliable and should be followed carefully. It is, however, impossible to eliminate all risks associated with use of this product. Because such factors as weather conditions, foreign material and manner of use for application are all beyond the control of TSI Company or the Seller of this product, such things as crop injury, ineffectiveness or other unintended consequences may result. ALL SUCH RISKS ARE ASSUMED BY THE BUYER.
TSI Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the directions for use as modified by the above. TSI makes no other warranties, express or implied, including FITNESS or MERCHANTABILITY. In no case shall TSI or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product. The foregoing is a condition of sale by TSI Company and is accepted as such by the Buyer.
GENERAL INFORMATION: SILVISAR 510 Tree Killer is designed for crown kill of undesirable trees, including both conifers and hardwoods, through spaced-cut injection methods. It shows negligible translocation through root grafts and has no residual phytotoxic action in the soil.
CARE OF EQUIPMENT: SILVISAR 510 Tree Killer is entirely soluble in water. Although SILVISAR 510 Tree Killer is only moderately corrosive, do not apply with any applicator that is lined with zinc, tin, or aluminum. Rinse all injection equipment thoroughly after use, and dispose of liquid wastes in a pit in non-crop lands located away from water supplies.
CONTAINER DISPOSAL: Do not reuse empty container. Wash thoroughly with water and detergent, crush if possible, and discard in a safe place.
DIRECTIONS FOR USE:
SPACED-CUT INJECTION WITH TSI "HYPO-HATCHET" INJECTOR: The TSI HYPO-HATCHET Injector cuts and injects in one operation. When a tree is struck with the injector, a pre-set amount of SILVISAR 510 Tree Killer is injected automatically into the sap stream of the tree immediately after impact. The injector works by inertia and is calibrated to inject at least one milliliter of chemical per stroke. The cuts should be evenly spaced around the trunk to give proper distribution into the sapwood. For detailed instructions on how to use the TSI HYPO-HATCHET Injector, refer to the Operation Manual.
CONIFERS AND HARDWOODS (Growing Season) – For trees below 8 inches diameter at breast height (DBH), make one cut per 2 inches of DBH (4½" spacing between cut edges) at waist height or below. For trees 8 inches DBH and larger, make one cut per 1 inch DBH (1½" spacing between cut edges).
CONIFERS (Dormant season) – Make one cut per 1 inch of DBH (1½" spacing between cut edges) at waist height or below.
HARDWOODS (Dormant season) – Make a complete frill at waist height or below.
SPACED-CUT APPLICATION: Although spaced-cut application is facilitated by use of the TSI HYPO-HATCHET Injector, a hatchet or similar cutting tool can be used. The number of cuts per tree depends upon the size of the cuts and the volume to be injected, but in any case, should be sufficient to hold the silvicide without running down the trunk. The cuts should be evenly spaced around the trunk to give proper distribution into the sapwood. Apply SILVISAR 510 Tree Killer with a pump-type oil can, plastic squeeze bottle, or other suitable dispenser; however, do not apply with any applicator that is lined with zinc, tin, or aluminum.
CONIFERS AND HARDWOODS (Growing season) – For trees below 8 inches diameter breast height (DBH), apply 1 milliliter of SILVISAR 510 Tree Killer per cut per 2 inches of DBH (6" spacing between cut centerlines) at waist height or below. For trees 8 inches DBH and larger, use 1 to 2 milliliters per cut per 1 inch DBH (3" spacing between cut centerlines).
CONIFERS (Dormant season) – Apply 1 milliliter of SILVISAR 510 Tree Killer per cut per 1 inch of DBH (3" spacing between cut centerlines).
HARDWOODS (Dormant season) – Apply 1 milliliter of SILVISAR 510 Tree Killer per cut in a complete frill at waist height or below.

SILVISAR 510 Tree Killer is manufactured by TSI Company, Flanders, New Jersey 07836.

SILVISAR, HYPO-HATCHET are registered tradernarks U.S. Patent 3,173,937 and others pending.

Net Contents Gallons EPA Reg. No. 28301-2

TSI

TSI COMPANY
FLANDERS, NEW JERSEY, U.S.A.

Silvisar® 510

Data Sheet

SILVISAR 510 TREE KILLER FOR USE IN BARK BEETLE CONTROL FOR USE BY PROFESSIONAL FORESTERS AND ENTOMOLOGISTS ONLY

SILVISAR 510 Tree Killer can be used to control Southern pine beetle (*Dendroctonus frontalis*), Spruce beetle (*D. rufipennis*), Englemann spruce beetle (*D. obesus*), Mountain pine beetle (*D. ponderosae*), Douglas-fir beetle (*D. pseudtsugae*), round headed pine beetle (*D. adjunctus*), Arizona five-spined beetle (*Ips. lecontei*), pine engraver beetle (*Ips. pini*), and the California five-spined beetle (*Ips. confusus*) in treated trees. The treatment of trap trees intended for harvest or cutting can serve as an aid in the control of these pests in a forestry management program in the states of Virginia, Georgia, Louisiana, Texas, Oregon, Utah, Idaho, Wyoming and in the Rocky Mountains of South Dakota, Colorado, Arizona and New Mexico.

SUGGESTED USES

1) Pre-flight treatment (trap tree technique).
2) Pre-harvest treatment (elimination of logging debris as brood material).
3) Pre-cutting treatment (in areas to be disturbed, e.g., trail building).
4) Post-flight treatment (lethal trap technique).

DIRECTIONS FOR USE IN CONIFERS:

Make a complete, trough-like frill around the entire tree within 18 inches of the ground. Apply 1 milliliter (approximately 1/30 of an ounce) evenly in the frill for each inch of tree **circumference.**

1) **Pre-Flight Treatment** (for spruce beetle only)—
   Fall Treatment — Treat in October and fell 4 weeks after treating. Use half strength (diluted with equal amount of water) or full strength SILVISAR 510 Tree Killer.
   Spring Treatment — Treat 4-8 weeks before peak beetle emergence and fell 2-4 weeks after treating. Use half strength (diluted with equal amount of water) of SILVISAR 510 Tree Killer.
2) **Pre-Harvest** and **Pre-Cutting Treatments** (for all beetle species mentioned above)—Treat with full strength SILVISAR 510 Tree Killer at least 4 weeks before cutting the tree. Allow a minimum of 4 weeks between treating and felling.
3) **Post-Flight Treatment** (for all beetle species mentioned above)—Treat with full strength SILVISAR 510 within 2-3 weeks after the tree is attacked.

Form No. 73173 Litho in U.S.A.

PHYSICAL PROPERTIES

Appearance	Deep Blue Solution
Density, g./ml.	1.44
Net Weight per Gallon	12 lbs.
pH	4.0-4.2
Arsenic Content (as elemental)	27.1%

HANDLING

SILVISAR 510 Tree Killer will usually remain fluid at temperatures down to 0°F. Prolonged storage at temperatures below 0°F. will cause crystallization, however, the crystals should redissolve on warming to room temperature.

The Acute Oral LD_{50} of SILVISAR 510 Tree Killer is 1400 mgs./kg. of body weight when tested on young male and female albino rats. While SILVISAR 510 Tree Killer is considered to be only a moderate toxicant and a moderate skin and eye irritant, it is recommended that contact with the material be avoided.

USES

SILVISAR 510 Tree Killer is designed for the crown-kill of undesirable trees, including both hardwoods and conifers through spaced-cut injection methods. Current uses include: Precommercial thinning, cull elimination, conifer release, control of species composition, site preparation, rangeland clearing, dwarf-mistletoe control, and bark beetle control.

CONTAINER SPECIFICATIONS

1 Quart Plastic Bottle
12 Bottles per Case
Case Dimensions — 12¾" x 9¾" x 10"
Gross Weight (case and 12 bottles) — 39½ pounds
Net Weight (1 quart) — 3 pounds

1 Gallon Plastic Jug
Carton Dimensions — 13¾" x 13¾" x 12¾"
Gross Weight (carton and 4 jugs) — 52 pounds
Net Weight (1 gallon) — 12 pounds

5 Gallon Plastic Jug
Dimensions — Outside Diameter 11½", Height 14"
Gross Weight — 63 pounds
Net Weight — 60 pounds

30 Gallon Lined Drum
Dimensions — Outside Diameter 19", Height 28¾"
Gross Weight — 385 pounds
Net Weight — 360 pounds

SILVISAR® TREE KILLERS

For Injection of Both Hardwoods and Conifers

SILVISAR 510

IDEALLY SUITED FOR:

- Pre-commercial Thinning of Overstocked Conifer Stands.
- Cull Elimination.
- Thinning of Hardwood Stands.
- Conifer Release.
- Stand Composition Control.
- Dwarfmistletoe Control.
- Bark Beetle Control
- Species Control in Watersheds.
- Range Land Clearing.
- Site Preparation.
- Farm Woodlot Improvement.

SILVISAR 550

SAVES LABOR

Superior translocation of *SILVISAR Tree Killers* permits wider spacing of injections. Trees below 6 inches in diameter at breast height may often be controlled with only 2 - 3 injections.

LOW COST

At recommended dosages, a typical 4-inch diameter weed tree can be controlled with *SILVISAR 510* for less than 1 cent! Concentrated *SILVISAR 510* costs only about 1/3 cent per milliliter. *SILVISAR 550* costs about 1/5 cent per milliliter.

BROAD SPECTRUM CONTROL

SILVISAR 510 AND 550 are effective on practically all species of hardwoods and conifers. For the first time, it is now possible to selectively control a wide variety of weed trees in one operation with consistent effectiveness. *SILVISAR 510 AND 550* are especially suited for pre-commercial thinning of hardwoods and conifers.

SAFE TO USE

SILVISAR Tree Killers have relatively low toxicity to man and animals. *SILVISAR Tree Killers* do not move in the soil or have any residual phytotoxic effect. They are approved for general forestry use by Environmental Protection Agency and the states.

FAST ACTING

SILVISAR Tree Killers produce top-kills within 2 weeks after injection during the growing season. Treatment during the dormant season results in top-kills the following spring.

NO FLASHBACK

When used at recommended dosages, movement of *SILVISAR Tree Killers* through root grafts to neighboring crop trees is negligible.

CONTAINS NEW DYES

SILVISAR 550 is colored bright red for maximum visibility. *SILVISAR 510* is colored bright blue.

APPROXIMATE NUMBER OF TREES KILLED PER GALLON OF SILVISAR		
AVERAGE TREE DIAMETER AT BREAST HEIGHT	GROWING SEASON	DORMANT SEASON
2"	4000	2000
4"	2000	1000
8"	500	500
12'	350	350

UNIT	PRICES PER GALLON	
	SILVISAR 510	SILVISAR 550
1 qt. container (12 qts. per case)	$ 13.75	$ 8.70
5 gallon can	12.75	7.70
30 gallon drum	12.60	7.50

SALES POLICIES

Shipments exceeding $1500.00 will be F.O.B. delivery point.

Shipments under $1500.00 will be F.O.B. Flanders, New Jersey, Marinette, Wisconsin, or warehouse points.

All shipments C.O.D. or Cash in Advance except industry and government – Net 30 days.

Minimum shipments of quart containers are case lots – 12 quarts/case.
The quart containers are designed to be used with the HYPO-HATCHET Injector.

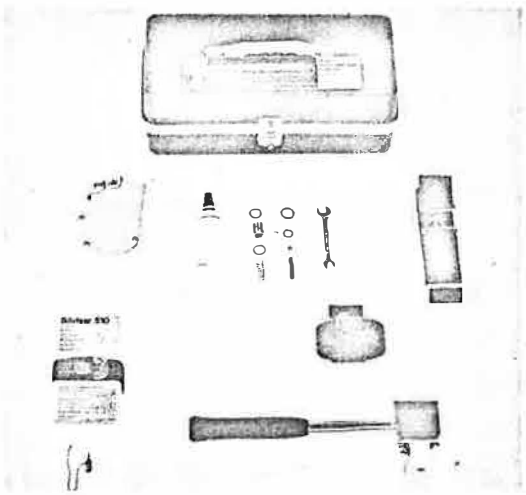
Prices effective January 1, 1974. Subject to change without notice.

TSI COMPANY
HIGHWAY 206, P.O. BOX 151
FLANDERS, NEW JERSEY 07836
PHONE (201) 584-3417

HYPO-HATCHET® TREE INJECTOR

For Fast, Safe, Economical Control of Weed Trees

FULLY AUTOMATIC — Injection occurs a split second after impact. The HYPO-HATCHET Injector is inertially operated and requires no adjustments in the field.



COMPLETE KIT — Includes HYPO-HATCHET Injector, belt, sheath, quart container, extra container holder, spare parts, lubricant and carrying case.

LIGHT AND COMPACT

The 3½-pound *HYPO-HATCHET Injector* is over 50% lighter than tubular tree injectors. Automatic injection and greater maneuverability permit the operator to work unencumbered by terrain and brush. There are no buttons to push, no levers to pull, no triggers to squeeze. Crews are easily trained.

EFFECTIVE

Waist-height injection with the *HYPO-HATCHET Injector and* WATER-SOLUBLE SILVICIDES has been proven to be a highly effective method of timber stand improvement. Basal sprouting is insignificant when WATER SOLUBLE SILVICIDES are used.

FAST

When used with *SILVISAR Tree Killers* wider spacing of injections with the *HYPO-HATCHET Injector* greatly increases speed of single tree injection. *SILVISAR Tree Killers* are available in time-saving quart containers designed for the *HYPO-HATCHET Injector.*

PRICES

	Units	
Complete Kit (shown above)	1 - 5	$99.50
	6 or more	94.50
Economy Unit	1 - 5	89.50
(Includes injector, belt, sheath, empty qt. container, qt. container holder and lubricant)	6 or more	84.50

TERMS: Cash in advance, C.O.D.; Industry and government net 30 days. Prices F.O.B. Flanders, New Jersey.

EFFICIENT

The *HYPO-HATCHET Injector* is built to penetrate with a minimum of effort. The specially designed bit creates a cup for chemical and minimizes waste. Waist-height injection requires less chemical and energy because tree diameter is smaller and bark is often thinner than at base of trees.

REDUCES LABOR COSTS

The *HYPO-HATCHET Injector* is 2 to 3 times faster than tubular injectors. Cost reductions of 50% and more have been obtained by many federal, state and private foresters in timber stand improvement. Over 75% of the cost of older methods of killing trees still consists of labor.

CALIBRATED

The *HYPO-HATCHET Injector* is calibrated to inject an average dosage slightly in excess of 1 milliliter.

GUARANTEED

The *HYPO-HATCHET* carries a 1-year warranty against defects in materials and workmanship.

TSI COMPANY
HIGHWAY 206, P.O. BOX 151
FLANDERS, NEW JERSEY 07836
PHONE (201) 584-3417

HYPO-HATCHET INJECTOR PARTS PRICE LIST

PART NO.	DESCRIPTION	PRICE
9030	Silicone Lubricant — 2 oz.	$ 3.75
13470	Bit	19.50
13475	Quart Container Holder	3.95
13477	Vent Pin Assembly (with chain)	1.75
13478	Quart Container Holder/vent pin	5.70
13479	Hatchet Sheath	3.95
13481	Belt	5.50
13483	Fiber Glass Case	11.75
13486	Head	25.00
13487	Piston Assembly (2 "O" rings valve retainer, flap valve & piston)	4.25
13487-R	Piston assembly rebuilt with returned brass casings	1.95
13491	Valve Assembly ("O" rings, valve cartridge, disc, retaining ring)	3.45
13497	Plug	2.90
13499	Seal	.70
15774	Handle Assembly (handle & sleeve)	7.35
15776	Hose (four foot length)	2.50
15798	Operation & Maintenance Manual	.75
18000	"O" Ring (price for 5)	1.25
18001	"O" Ring (price for 5)	1.25
18002	"O" Ring (price for 5)	1.25
18003	"O" Ring (price for 5)	1.25
18004	Spring	.90
18009	Cylinder Liner	3.75
18011	Connector & Screen	2.35
18020	Hose Splicer	.45
18024	Empty Quart & Cap (per case of 12)	9.00
18104	1/4" x 1-3/8" Cap Screw	.75
18105	1/4" x 1/2" Cap Screw	.30
18106	1/4" Lock Washer	.15
18107	1/4" Jam Nut	.25
18100	Hose Clamp	.15

Prices effective January 1, 1974. Prices subject to change without notice.

TSI COMPANY
HIGHWAY 206
P. O. BOX 151
FLANDERS, NEW JERSEY 07836
(201) 584-3417

TSI FORESTRY REPORT

SILVISAR 510 Tree Killer For Use In Bark Beetle Control
For Use By Professional Foresters Only

SILVISAR 510 Tree Killer can be used to control Englemann spruce beetle (Dendroctonus obesus), Mountain pine beetle (D. ponderosae), Douglas-fir beetle (D. pseudotsugae), round headed pine beetle (D. adjunctus), Arizona five-spined beetle (Ips. lecontei), pine engraver beetle (Ips. pini), and the California five-spined beetle (Ips. confusus) in treated trees. The treatment of trap trees and trees intended for harvest or cutting can serve as an aid in the control of these pests in a forestry management program in the Rocky Mountains of South Dakota, Colorado, Arizona and New Mexico.

Suggested Uses:

1) Pre-flight treatment (trap tree technique).
2) Pre-harvest treatment (elimination of logging debris as brood material).
3) Pre-cutting treatment (in areas to be disturbed, e.g., trail building).
4) Post-flight treatment (lethal trap technique).

Directions For Use In Conifers:

Make a complete, trough-like frill around the entire tree within 18 inches of the ground. Apply 1 milliliter (approximately 1/30 of an ounce) evenly in the frill for each inch of tree circumference.

1) Pre-Flight Treatment (for spruce beetle only)-
Fall Treatment - Treat in October and fell 4 weeks after treating. Use half strength (diluted with equal amount of water) or full strength SILVISAR 510 Tree Killer.
Spring Treatment - Treat 4-8 weeks before peak beetle emergence and fell 2-4 weeks after treating. Use half strength (diluted with equal amount of water) of SILVISAR 510 Tree Killer.

2) Pre-Harvest and Pre-Cutting Treatments (for all beetle species mentioned above) - Treat with full strength SILVISAR 510 Tree Killer at least 4 weeks before cutting the tree. Allow a minimum of 4 weeks between treating and felling.

3) Post-Flight Treatment (for all beetle species mentioned above) - Treat with full strength SILVISAR 510 within 2-3 weeks after the tree is attacked.

EXCLUSIVE SALES AGENT:

T S I COMPANY
P.O. BOX 151
FLANDERS, N.J. 07836
201-584-3417

4-20-71

Silvisar

Dear Sir:

On May 13, 1972, Environmental Protection Agency approved the use of SILVISAR 510 (cacodylic acid) for control of additional bark beetles and expanded the areas in which this new method can be employed.

West of the Mississippi River, the spruce beetle Dendroctonus rufipennis was added to the list of susceptible bark beetles. Also, SILVISAR 510 was cleared for bark beetle control in the additional states of Texas, Oregon, Utah and Wyoming.

We believe that this new method represents a step forward in using technology to control destructive insects without polluting the environment and without harming non-target organisms. In addition, the new method is substantially cheaper than felling and burning or spraying with persistent broad spectrum insecticides such as benzene hexachloride (BHC).

Enclosed is a copy of the new bark beetle control instructions which will become part of the new SILVISAR 510 federal label now being revised. Also enclosed for your reference is a summary of recent field research on the use of SILVISAR 510 for bark beetle control.

Should you have any questions, or if you need copies of the research reports referred to in the summary, please let us know.

Sincerely,
T S I Company

Robert A. Smith
General Manager

LABEL
DRAFT COPY

BEETLE BELTER

Active ingredient: Ethylene dibromide - 83%
Inert ingredient: -17%
1 gallon contains 12 pounds of Ethylene dibromide

CAUTION

HAZARDOUS LIQUID AND VAPOR ABSORBED THROUGH SKIN - MAY CAUSE BURNS

KEEP OUT OF REACH OF CHILDREN

DO NOT GET ON SKIN, IN EYES, OR ON CLOTHING

AVOID BREATHING VAPOR

DO NOT TAKE INTERNALLY

CALL A DOCTOR IN CASE OF ACCIDENT

P O I S O N

Do not use containers, handling or application equipment made of aluminum, magnesium, or their alloys. Store in tightly closed containers away from dwellings. In outside storage, store drums on their sides. If subject to temperature below 28° F, warm to 50° F and mix thoroughly before using.

First Aid:

In case of contact, immediately remove contaminated shoes and clothing and wash skin with soap and water; flush eyes with plenty of water for at least 15 minutes and get medical attention. Do not wear shoes or clothing until absolutely free of all chemical odor.

If illness results from inhalation, remove to fresh air and call a doctor.

If swallowed, call a doctor. Induce vomiting by giving an emetic such as 2 tablespoonsful of salt in a glass of warm water.

Use Recommendations

Do not use this product for any uses other than those specified on this label. For use only on Federal or cooperative control projects.

Use either the oil or water formulations on western pines to control Black Hills beetle, Jeffrey pine beetle, and mountain pine beetle (Dendroctonus ponderosae); California flatheaded borer (Melanophila californica); round-headed pine beetle (Dendroctonus adjunctus).

Use the oil formulation on Douglas-fir to control the Douglas-fir beetle (Dendroctonus pseudotsugae). Apply at the rate of 1 gal. per 30 sq. ft. of bark surface.

Use either the water or oil formulation on spruces to control the Engelmann spruce beetle (Dendroctonus obesus).

Preparation of Spray

Oil Formulation:

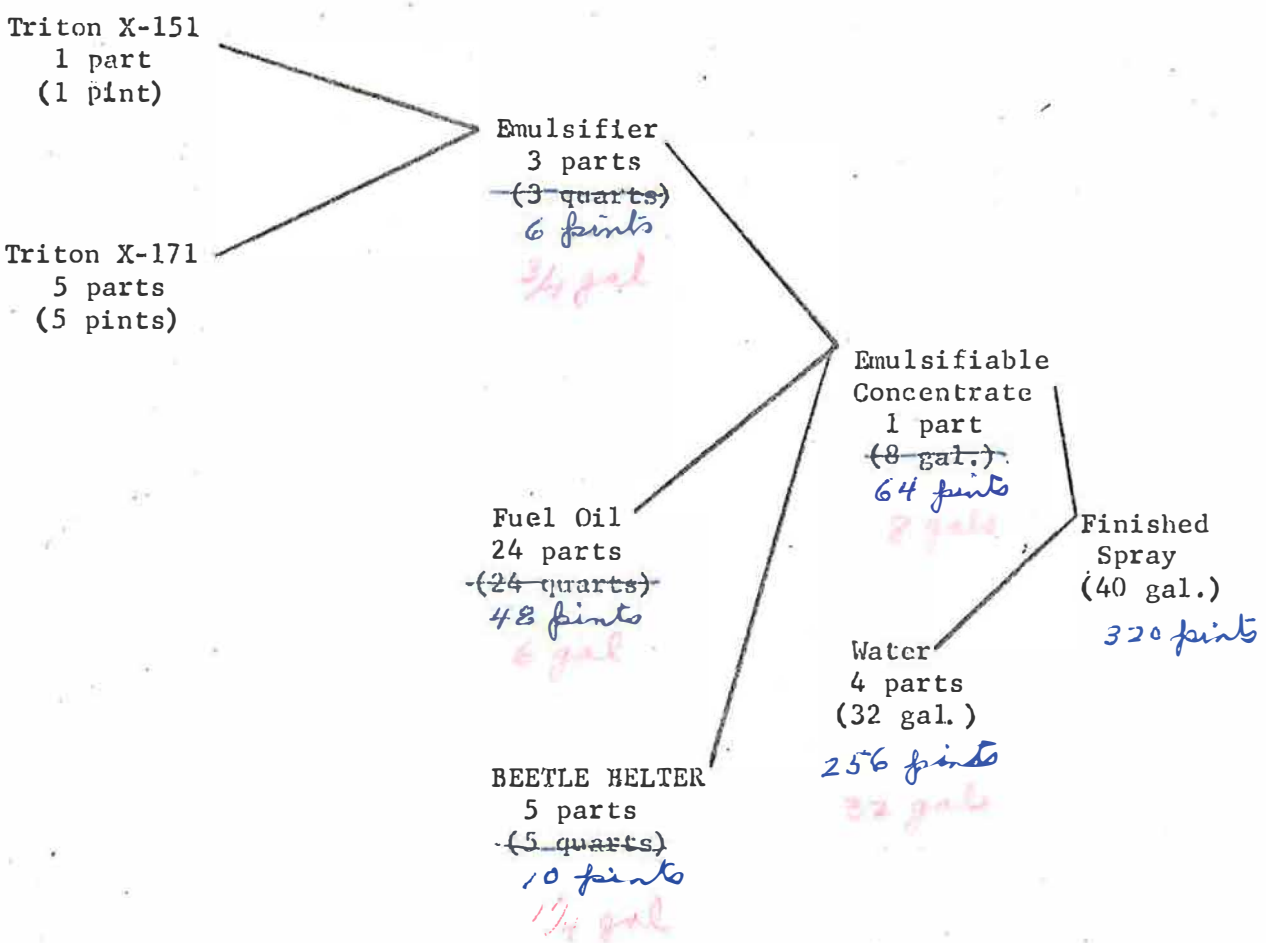
Mix BEETLE BELTER and No. 2 fuel oil in a suitable container at the rate of 1 pint to 5 gallons of oil. For Douglas-fir beetle control use 1 quart of BEETLE BELTER to 5 gallons of oil. Always pour the oil into the container first, then add the BEETLE BELTER. Fifty-five gallon drums equipped with spigots are handy mixing tanks and are easy to fill spray cans from.

Mix the solution thoroughly; BEETLE BELTER is much heavier than oil and, without vigorous mixing, tends to settle to the bottom. Once mixed, it has little tendency to settle out at temperatures above freezing.

Paddle-type mixing in open containers is not generally satisfactory. Up-ending the container 5 times or rolling it 30 times will provide adequate mixing, as will a plunger-type agitator, something that will lift the heavier BEETLE BELTER from the bottom of the tank and allow it to fall back through the oil.

Water Formulation:

Mix the following materials together in the order and proportions shown below:



The emulsifiable concentrate must be mixed well. If not, separation of the components may occur at low temperatures. Upend the container 5 or 6 times to let the heavier BEETLE BELTER fall through the oil.

When water is available near the treating site, the final step of combining the emulsifiable concentrate and water can be done close to the treating site.

Preparing the Tree

Fell and limb the tree, buck the infested section of the trunk into lengths that can be rolled.

Application of Spray

Thoroughly drench the uppermost face of log until the insecticide puddles in the bark crevices. Allow the spray to soak into the bark, then roll the log so that an untreated area is on top and repeat until the entire surface has been covered. Special care should be taken to avoid missing any areas as beetles under unsprayed bark will not be killed. Treating should not be attempted when bark is wet. Wait for the bark to dry until the oil will stay put when applied.

Spray Equipment

The type of equipment needed to apply the spray depends on the nature of the job. When only a few trees are involved, an ordinary sprinkling can is satisfactory. When accessible concentrations are to be treated, it is sometimes advantageous to use a power sprayer. Best results are obtained with power equipment by maintaining pressure of 10 to 15 pounds per square inch at the nozzle. Use nozzles that allow a large volume at low pressure. This avoids bouncing spray off the log or creating a mist.

U. S. DEPT. OF AGRICULTURE

FOREST SERVICE

ETHYLENE DIBROMIDE BARK BEETLE SPRAY
FORMULA C

CTIVE INGREDIENTS:	Ethylene Dibromide	56.0%
	Fuel Oil	43.5
NERT INGREDIENTS:		0.5
	TOTAL	100.0%

6165(92)

CAUTION: KEEP OUT OF REACH OF CHILDREN
U.S.D.A. REG. #468 388

DIRECTIONS

or killing PINE BARK BEETLE and SPRUCE BARK BEETLE in infested trees to prevent their spread to infested trees, mix 1 part of Ethylene Dibromide Bark Beetle Spray with 19 parts of diesel oil ir thoroughly. Three to four and one-half gallons of dilute spray will usually cover one tree

or PINE BARK BEETLE, wet trunks and branches of infested trees completely and thoroughly with he mixture any time between September 15th to the following July 15th.

r SPRUCE BARK BEETLE, wet trunks and branches of infested trees completely and thoroughly any ime from July 15th to the following May 15th.

oid spraying uninfested trees.

CAUTION: Harmful by inhalation, swallowing or skin contact.
Avoid breathing vapor.
Do not get in eyes, on skin, or on clothing.
In case of contact, immediately remove clothing, including shoes, flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Wash clothing and air shoes thoroughly before reuse.
Keep out of reach of children.

N-WARRANTY: Manufacturer or seller is not liable for any injury or damage caused by this oduct due to misuse, mishandling, or any application not specifically recommended on this bel.

NET CONTENTS: 30 Gals.

MANUFACTURED BY: WASATCH CHEMICAL COMPANY
SALT LAKE CITY, UTAH

new copy

Accepted by USDA June 23, 1969

ETHYLENE DIBROMIDE

SPRAY 2# EMULSIBLE

ACTIVE INGREDIENTS:	Ethylene Dibromide	23.02%
	Fuel Oil	71.68%
INERT INGREDIENTS:	.....	5.30%
	TOTAL.....	100.00%

DIRECTIONS

For control of PINE BARK BEETLE and SPRUCE BARK BEETLE, mix 1 part of ETHYLENE DIBROMIDE with 3 parts of water. Stir thoroughly. Five gallons of dilute spray will cover one tree about 8 inches in diameter 30 feet high.

For PINE BARK BEETLE, wet trunks and branches of infested trees completely and thoroughly with the mixture any time between September 15th to the following July 15th.

For SPRUCE BARK BEETLE, wet trunks and branches of infested trees completely and thoroughly any time from July 15th to the following May 15th.

Avoid spraying uninfested trees.

CAUTION: KEEP OUT OF REACH OF CHILDREN.

Harmful by inhalation, swallowing or skin contact. Do not get in eyes, on skin or on clothing. In case of contact, immediately remove clothing, including shoes, and flush skin or eyes with plenty of water for at least 15 minutes; for eyes get medical attention. Avoid breathing vapor. Wash clothing, and air shoes thoroughly before reuse.

NON-WARRANTY: Manufacturer or seller is not liable for any injury or damage caused by this product due to misuse, mishandling, or any application not specifically recommended on this label.

USDA REG. NO. 168-425

NET CONTENTS: 30 GALS.

MANUFACTURED BY:
WASATCH CHEMICAL COMPANY
2225 South 5th East
Salt Lake City, Utah 84106

Ethylene dibromide

C26000

ETHYLENE DIBROMIDE

DANGER! KEEP OUT OF REACH OF CHILDREN. HAZARDOUS LIQUID AND VAPOR. ABSORBED THROUGH SKIN. MAY CAUSE BURNS.

Do not get on skin, in eyes or on clothing. Avoid Breathing vapor. Do not take internally.

POISON

FIRST AID — CALL A PHYSICIAN IMMEDIATELY

In case of contact, immediately remove contaminated shoes and clothing and wash skin with soap and water; flush eyes with plenty of water for at least 15 minutes and get medical attention. Do not wear shoes or clothing until absolutely free of all chemical odor.

If illness results from inhalation, remove to fresh air and call a doctor.

If swallowed, call a doctor. Induce vomiting by giving an emetic such as 2 tablespoonfuls of table salt in a glass of warm water.

DRUM STORAGE AND HANDLING

Keep plug up to prevent leakage. Keep drum out of sun and away from heat. Do not drop or slide across sharp projection. Never use pressure to empty. Drum is not a pressure vessel. Replace plug after each withdrawal.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THIS MATERIAL OR THE USE OF THIS PRODUCT OTHER THAN INDICATED ON THE LABEL. BUYER ASSUMES ALL RISK OF USE AND / OR HANDLING OF THIS MATERIAL WHEN SUCH USE AND/OR HANDLING IS CONTRARY TO LABEL INSTRUCTIONS.

WARNING

KEEP AWAY from FEED or FOOD PRODUCTS

POISON

CAUTION – DO NOT DROP

IF LEAKING **DON'T** BREATHE FUMES TOUCH CONTENTS SWALLOW

This is to certify that the contents of this package are properly described by name and are packed and marked and are in proper condition for transportation according to the Regulations prescribed by the Department of Transportation.

VAN WATERS & ROGERS

Shipper's name required hereon for shipments by EXPRESS

NET CONTENTS
700 POUNDS

A VWR UNITED COMPANY

Distributed by

Van Waters & Rogers

SAN FRANCISCO, CALIFORNIA 94119

10/70

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